Table 2.1-2

Ventilation Requirements for Areas Affecting Patient Care in Hospitals and Outpatient Facilities[1]

Area designation	*Air movement relationship to adjacent area[2]*	*Minimum air changes of outdoor air per hour[3]*	*Minimum total air changes per hour[4, 5]*	*All air exhausted directly to outdoors[6]*	*Recirculated by means of room units[7]*	*Relative humidity[8] (%)*	*Design temperature[9] (degrees F/C)*
NURSING UNITS							
Patient room	–	2	6[10]	–	–	–	70-75 (21-24)
Toilet room	In	–	10	Yes	–	–	–
Newborn nursery suite	–	2	6	–	No	30-60	72-78 (22-26)
Protective environment room[11]	Out	2	12	–	No	–	75 (24)
Airborne infection isolation room[11]	In	2	12	Yes[12]	No	–	75 (24)
Isolation alcove or anteroom	In/Out	–	10	Yes	No	–	–
Patient corridor	–	–	2	–	–	–	–
OBSTETRICAL FACILITIES							
Delivery room[13]	Out	3	15	–	No	30-60	68-73 (20-23)
Labor/delivery/recovery	–	2	6[10]	–	–	–	70-75 (21-24)
Labor/delivery/recovery/postpartum	–	2	6[10]	–	–	–	70-75 (21-24)
EMERGENCY, SURGERY, AND CRITICAL CARE							
Operating/surgical cystoscopic rooms[11, 13]	Out	3	15	–	No	30-60	68-73 (20-23)[14]
Recovery room[13]	–	2	6	–	No	30-60	70-75 (21-24)
Critical and intensive care	–	2	6	–	No	30-60	70-75 (21-24)
Intermediate care	–	2	6[10]	–	–	–	70-75 (21-24)
Newborn intensive care	–	2	6	–	No	30-60	72-78 (22-26)
Treatment room[15]	–	–	6	–	–	–	75 (24)
Trauma room[15]	Out	3	15	–	No	30-60	70-75 (21-24)
Bronchoscopy[11]	In	2	12	Yes	No	30-60	68-73 (20-23)
Triage	In	2	12	Yes[16]	–	–	70-75 (21-24)
ER waiting rooms	In	2	12	Yes[12, 16]	–	–	70-75 (21-24)
Procedure room	Out	3	15	–	No	30-60	70-75 (21-24)
Laser eye room	Out	3	15	–	No	30-60	70-75 (21-24)
X-ray (surgical/critical care and catheterization)	Out	3	15	–	No	30-60	70-75 (21-24)
Anesthesia gas storage	In	–	8	Yes	–	–	–
SUPPORT AREAS							
Medication room	Out	–	4	–	–	–	–
Clean workroom or clean holding	Out	–	4	–	–	–	–
Soiled workroom or soiled holding	In	–	10	Yes	No	–	–
DIAGNOSTIC AND TREATMENT AREAS							
Examination room	–	–	6	–	–	–	75 (24)
Treatment room	–	–	6	–	–	–	75 (24)
Physical therapy and hydrotherapy	In	–	6	–	–	–	75 (24)
Gastrointestinal endoscopy room	–	2	6	–	No	30-60	68-73 (20-23)
Endoscopic instrument processing room[17]	In	–	10	Yes	No	–	–
Imaging[18]							
X-ray (diagnostic & treatment)	–	–	6	–	–	–	75 (24)
Darkroom	In	–	10	Yes	No	–	–
Imaging waiting rooms	In	2	12	Yes[12, 16]	–	–	70-75 (21-24)
Laboratory[19]							
General[18]	–	–	6	–	–	–	75 (24)
Biochemistry[18]	In	–	6	Yes	No	–	75 (24)
Cytology	In	–	6	Yes	No	–	75 (24)
Glass washing	In	–	10	Yes	–	–	–

Table 2.1-2 (continued)
Ventilation Requirements for Areas Affecting Patient Care in Hospitals and Outpatient Facilities[1]

Area designation	*Air movement relationship to adjacent area[2]*	*Minimum air changes of outdoor air per hour[3]*	*Minimum total air changes per hour[4, 5]*	*All air exhausted directly to outdoors[6]*	*Recirculated by means of room units[7]*	*Relative humidity[8] (%)*	*Design temperature[9] (degrees F/C)*
Histology	In	–	6	Yes	No	–	75 (24)
Microbiology[18]	In	–	6	Yes	No	–	75 (24)
Nuclear medicine	In	–	6	Yes	No	–	75 (24)
Pathology	In	–	6	Yes	No	–	75 (24)
Serology	In	–	6	Yes	No	–	75 (24)
Sterilizing	In	–	10	Yes	–	–	–
Autopsy room[11]	In	–	12	Yes	No	–	–
Nonrefrigerated body-holding room	In	–	10	Yes	–	–	70 (21)
SERVICE AREAS							
Pharmacy	Out	–	4	–	–	–	–
Food preparation center	–	–	10	–	No	–	–
Warewashing	In	–	10	Yes	No	–	–
Dietary day storage	In	–	2	–	–	–	–
Laundry, general	–	–	10	Yes	–	–	–
Soiled linen (sorting and storage)	In	–	10	Yes	No	–	–
Clean linen storage	Out	–	2	–	–	–	–
Soiled linen and trash chute room	In	–	10	Yes	No	–	–
Bedpan room	In	–	10	Yes	–	–	–
Bathroom	In	–	10	–	–	–	75 (24)
Housekeeping room	In	–	10	Yes	No	–	–
STERILIZING AND SUPPLY							
ETO-sterilizer room	In	–	10	Yes	No	30-60	75 (24)
Sterilizer equipment room	In	–	10	Yes	–	–	–
Central medical and surgical supply							
Soiled or decontamination room	In	–	6	Yes	No	–	68-73 (20-23)
Clean workroom	Out	–	4	–	No	30-60	75 (24)
Sterile storage	Out	–	4	–	–	(Max) 70	–

[1] The ventilation rates in this table cover ventilation for comfort, as well as for asepsis and odor control in areas of acute care hospitals that directly affect patient care and are determined based on healthcare facilities being predominantly "No Smoking" facilities. Where smoking may be allowed, ventilation rates will need adjustment. Areas where specific ventilation rates are not given in the table shall be ventilated in accordance with ASHRAE Standard 62, *Ventilation for Acceptable Indoor Air Quality*, and *ASHRAE Handbook—HVAC Applications*. Specialized patient care areas, including organ transplant units, burn units, specialty procedure rooms, etc., shall have additional ventilation provisions for air quality control as may be appropriate. OSHA standards and/or NIOSH criteria require special ventilation requirements for employee health and safety within health care facilities.

[2] Design of the ventilation system shall provide air movement which is generally from clean to less clean areas. If any form of variable air volume or load shedding system is used for energy conservation, it must not compromise the corridor-to-room pressure balancing relationships or the minimum air changes required by the table.

[3] To satisfy exhaust needs, replacement air from the outside is necessary. Table 2.1-2 does not attempt to describe specific amounts of outside air to be supplied to individual spaces except for certain areas such as those listed. Distribution of the outside air, added to the system to balance required exhaust, shall be as required by good engineering practice. Minimum outside air quantities shall remain constant while the system is in operation. In variable volume systems, the minimum outside air setting on the air-handling unit shall be calculated using the ASHRAE 62 method.

[4] Number of air changes may be reduced when the room is unoccupied if provisions are made to ensure that the number of air changes indicated is reestablished any time the space is being utilized. Adjustments shall include provisions so that the direction of air movement shall remain the same when the number of air changes is reduced. Areas not indicated as having continuous directional control may have ventilation systems shut down when space is unoccupied and ventilation is not otherwise needed, if the maximum infiltration or exfiltration permitted in Note 2 is not exceeded and if adjacent pressure balancing relationships are not compromised. Air quantity calculations must account for filter loading such that the indicated air change rates are provided up until the time of filter change-out. The minimum total air change requirements for Table 2.1-2 shall be based on the supply air quantity in positive pressure rooms, and the exhaust air quantity in negative pressure rooms.

[5] Air change requirements indicated are minimum values. Higher values should be used when required to maintain indicated room conditions (temperature and humidity), based on the cooling load of the space (lights, equipment, people, exterior walls and windows, etc.).